Africa Research In Sustainable Intensification for the Next Generation (Africa RISING)

Monitoring and Evaluation Data Requirement Guide

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The Africa Research In Sustainable Intensification for the Next Generation (Africa RISING) program comprises three research-for-development projects supported by the United States Agency for International Development as part of the U.S. government's Feed the Future initiative.

Through action research and development partnerships, Africa RISING will create opportunities for smallholder farm households to move out of hunger and poverty through sustainably intensified farming systems that improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base.

The three regional projects are led by the International Institute of Tropical Agriculture (in West Africa and East and Southern Africa) and the International Livestock Research Institute (in the Ethiopian Highlands). The International Food Policy Research Institute leads the program's monitoring, evaluation and impact assessment. http://africa-rising.net/

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Executive summary

Monitoring and Evaluation (M&E) are integral parts of project management and play a crucial role in assessing the efficiency and effectiveness of investments in research and development interventions. Inadequate planning and capacity for timely collection, analysis, and dissemination of data are among the challenges usually faced during the M&E of programs, outputs, and outcomes. This document provides a guideline on M&E data requirements for Africa RISING (hereon after AR) to ease some of these challenges. The successful implementation of the guidelines herein requires a strong collaboration and follow up by the M&E team, AR researchers, chief scientists, and program managers as summarized in Table 1 below.

The rest of the guide is organized as follows. Section 1 outlines data needs regarding different types of program beneficiaries and sustainable intensification (SI) innovations. Section 2 discusses Feed the Future indicators data requirements. Notes about the indicators of SI developed by Michigan State University researchers as part of the SI Indicators Framework (SIIF) are in Section 3. Section 4 discusses some guidelines for agronomic and socioeconomic data collection.

Table 1. Summary of M&E data requirements

Data type	Tool	Timing of data collection	Responsibility: compiling data	Responsibility: aggregation and updating of tools	Remark
FtF Indicators	Project mapping and monitoring tool (PMMT)	Once a year	AR researchers	M&E team	http://apps.harvestchoice.org/africarising-data-reports/
Direct beneficiaries and technologies	Beneficiary and technology tracking tool (BTTT)	After each growing season	AR researchers	M&E team	Refer here
Indirect beneficiaries and technologies	Exposure tool	After every incidence of "exposure"	AR researchers	M&E team	Please refer to exposure template here
Beneficiaries of scaling up/out	Scaling tool	Quarterly	AR researchers and their development partners	M&E team	Please refer to scaling template here
Agronomic	Various tools	As necessary	AR researchers		Please refer to proposed ag trial template here
Socio-economic	Various tools	As necessary	AR researchers and the M&E team		Refer here
Scaling-up process evaluation	TBD	Yearly		Local data managers	

1 Program beneficiaries and technologies

Cataloging of direct and indirect program beneficiaries and SI innovations is crucial for gauging progress regarding expected program outputs and outcomes. These data are especially important for AR, given the diversity of innovations and farming systems as well as the number of partners involved. Data on three types of beneficiaries shall be collected to assist with effective project monitoring.

1.1 Households directly testing SI innovations – direct beneficiaries

For operational purpose, households directly testing AR SI innovations under the supervision of AR researchers through mother-baby trials or other participatory approaches are defined as *direct beneficiary households.* To aid with the cataloging of direct beneficiaries and the technologies being tested, IFPRI's M&E team has developed an offline beneficiary and technology tracking tool (BTTT). The unit of data collection for *direct* beneficiaries shall be the household. Building upon the unique household identification (ID) assigned to AR beneficiary households included in the Africa RISING Baseline Evaluation Surveys (ARBES), the BTTT assigns a unique ID to each direct beneficiary household based on information about the location of the household (country and various administration levels) and beneficiary status (e.g., mother, baby, grandchild, other).

The BTTT is pre-populated with basic information about direct beneficiaries interviewed as part of ARBES, along with a place holder for direct beneficiaries that joined the program since the implementation of ARBES. The BTTT allows users to record up to 30 crop- and livestock-related technologies and practices per household as can been seen following the links in Table 2. If multiple household members benefit from several research activities led by different AR partners, the household will have only entry (row) in the BTTT, with each innovation (or mix of innovations) recorded in separate columns

Table 2. De-identified BTTTs

Country	URLs to de-identified BTTTs
Ghana	https://www.dropbox.com/s/e6tbeuojhtvmqf5/Africa_RISING_Ghana_BTTT_Deidentified.xlsx?dl=0
Ethiopia	https://www.dropbox.com/s/41ozdsg9sft2pbx/Africa_RISING_Ethiopia_BTTT_Deidentified.xlsx?dl=0
Mali	https://www.dropbox.com/s/3rlrbbrjoc44xiz/Africa_RISING_Mali_BTTT_Deidentified.xlsx?dl=0
Malawi	https://www.dropbox.com/s/pvyha6wygfrbf8j/Africa_RISING_Malawi_BTTT_Deidentified.xlsx?dl=0
Tanzania	https://www.dropbox.com/s/g8lnkpdm8vzuy0a/Africa_RISING_Tanzania_BTTT_Deidentified.xlsx?dl=0

Note: The de-identified versions of the BTTT have been stripped of all identifying information. Please contact IFPRI M&E team for any questions about the BTTT.

For the sake of project monitoring and follow-up, it is crucial that specific AR technologies are mapped with specific and identifiable households. This will enable stakeholders to be aware of universe of technologies that have been tested since program inception, the sub-set of technologies selected for scaling up/out, as well as the number of farmers and households testing each technology or mix of technologies. Also, for those conducting socioeconomic analysis, the unique IDs will allow them to link the SI technologies with various short- to long-term agroeconomic and development outcomes.

The BTTT should be updated at the beginning of each harvest season for crop-related technologies and as frequently as possible for livestock-related technologies.

Given the scope of the program, and to avoid duplication of direct beneficiary households and technologies (and hence IDs), the BTTT shall be updated at the project/country level by the M&E coordinator/data manager. AR researchers shall provide details about program beneficiaries to the M&E team.

Data collected through the BTTT that are accessible to the public shall have no identifying information such as farmers' names (only aggregate reporting). Any AR partner interested in access BTTT data with identifying information shall sign a Data User Agreement (DUA) with the AR team/s who owns the data. Please find a DUA form in Appendix A.

1.2 Households exposed to AR innovations – indirect beneficiaries

For operational purpose, farmers exposed to AR innovations, without directly engaging in the testing of SI innovations under the supervision of AR researchers, are identified as *indirect beneficiaries.* While there are multiple ways through which households could become an indirect beneficiary, the focus here is on those instances where data on indirect beneficiaries could be collected relatively easily. An example of an indirect beneficiary is a farmer who attends a field day organized by AR researchers but for whom there are no subsequent follow-ups by AR researchers to find out whether the farmer has tested/adopted any of the technologies demonstrated during the field day. While farmers may learn about AR SI innovations by talking to other direct beneficiary farmers in their networks, collecting data on such farmers will be logistically difficult.[1]

[1] IFPRI's quasi-experimental evaluation design that compares direct beneficiaries with non-beneficiaries in program target and non-target villages is expected to generate evidence on possible spillover effects.

The unit of data collection for *indirect* beneficiaries can be either an individual or a household, as appropriate. In the case of a field day, for example, it will be logistically difficult to try to map field day attendees to a specific household (since different household members could attend the field day) and so data on field day attendees shall be collected at the farmer level.

Data on indirect beneficiaries shall be collected using the template here**.** AR researchers may wish to update/modify this template depending on the outreach approach.

Data on indirect beneficiaries shall be collected every time farmers are exposed to AR activities.

Data on indirect beneficiaries shall be complied by AR researchers and local M&E coordinators for subsequent aggregation by the M&E team.

1.3 Households benefiting from scaling up/out activities – scaling beneficiaries

During Phase II of the program, AR is expected to reach hundreds of thousands of households working with development partners. During this phase, basic information about the SI innovations(s) that are being scaled up, the development partners assisting with the scaling up efforts, as well as the total number of households benefiting from scaling activities shall be collected.

Data on beneficiaries of scaling out/up activities shall be collected using the template here**.** AR researchers may wish to update/modify this template depending on the outreach approach.

Data on scaling activities shall be collected/updated every quarter.

AR researchers, their development partners, and local M&E coordinators are responsible for compiling data on scaling beneficiary households. The M&E team is responsible for subsequent aggregation of data on scaling beneficiaries.

2 Feed the Future (FtF) indicators

Outputs are measurable/countable products of the various interventions. Analysis of FtF indicators targets and achievements will allow project managers and the donor to examine progresses made against project- and program-level targets.
Data collection tool: AR researchers should compile FtF indicators and upload them onto the PMMT http://apps.harvestchoice.org/africarising-data-reports/ using the login credentials assigned to them.[2]

[2] Please contact IFPRI M&E team if you do not have the login credentials.

FtF indicators data shall be complied throughout the year for subsequent reporting at the end of the fiscal year. Considering the timeline for uploading of FtF indicators data onto USAID's FtF Monitoring System (FtFMS), each country should upload complete data on the FtF indicators (along with the 10% discrepancy narratives) onto the PMMT by October 31st or a month before the FtFMS portal closes, whichever comes first. This will allow IFPRI to communicate with AR researchers for any missing information, aggregate theme/work package-level entries to mega-site, and upload aggregated FtF data onto the FtFMS in a timely manner.

AR researchers are responsible for compiling data on FtF indicators and uploading them onto the PMMT, with guidance from local data managers and the M&E team. The M&E team is responsible for validating and aggregating individual-level FtF data reports to a mega-site level and upload data onto the USAID's FtFMS portal.

3 Sustainable Intensification (SI) Indicators

Data on SI indicators are crucial to assess how AR is affecting different aspects of farming systems and the livelihood of smallholder farmers. Unlike project outputs, project outcomes are not under the direct control of the project. Instead, observed agronomic and economic outcomes of beneficiaries could result from program interventions, land-scape level biophysical and economic conditions (e.g., access to input and output markets).

The first step in the collection of data on SI indicators involves the identification of key indicators of interest that are relevant to the specific project/theme. The identification of SI indicators will be guided by the *Sustainable Intensification Indicator Framework (SIIF)* being developed by Michigan State University (MSU) researchers. The SIIF provides guidelines for the selection of sustainable intensification (SI) indicators across five domains - Productivity, Economic, Environment, Social and Human – and provides guidelines for how data may be collected to estimate those indicators at field/farm-, household-, and landscape or administrative-scale, as applicable.

Depending on the (expected) number of beneficiaries for each innovation/mix of innovations, the M&E team and AR researchers will work together to determine the optimal number of beneficiaries from whom to collect data on SI indicators.

Since the SIIF does not prescribe a specific survey tool to collect data on specific domains of SI indicators, AR researchers and the M&E team shall jointly develop relevant survey tools, after AR researchers identify the SI indicators that apply to their project.

The frequency of data collection will depend on the appropriate indicators selected. Following the guidelines provided in the SIIF is the responsibility of the AR researchers and, as noted in the SIIF, AR

researchers should report SI data to the Chief Scientist as part of a summary of their synthesized results and/or as it is used in publications. For example, the results from SI indicators analysis could be presented in a peer reviewed journal article or as part of a policy brief, extension note or technology profile.

The timing of data collection will be guided by the SIIF.

4 Agronomic and socioeconomic data

Agronomic and socioeconomic data covering a wide variety of topics have been collected since the program inception in 2012. Depending on the goal of the data collection, different tools have been developed and/or adapted. While there are no topic-specific guidelines regarding data requirements, the following general guidelines are recommended based on the review of Phase I agronomic and socioeconomic data that have been uploaded onto the program-level data repository platform.

- ✓ AR researchers should secure (written or oral) informed consent before collecting any data from human subjects.
- ✓ All data uploaded onto the platform shall be de-identified (i.e., should be stripped of personal identifying information such as names and telephone numbers).
- ✓ All data uploaded onto the platform shall be accompanied by the data collection tool and other necessary documentation. This would greatly assist with full understanding and proper interpretation by data users.
- ✓ All variables and value labels should be labelled as much as possible. The relevant reporting period should be clearly specified for all data in general and for data on agricultural inputs and outputs in particular.
- ✓ Data reported in local measurement units shall be accompanied by information about metric conversions if possible. For example, interpreting information about “one bag of fertilizer” would be difficult for data users unless information is provided about how much a bag of fertilizer would weigh in kilograms. For agronomic data, information about metric conversions can be provided either in the trial protocols or as supplemental information.

AR researchers may find the contents in the ag trial template here useful as they develop their respective tools for collecting agronomic data. AR researchers conducting socioeconomic surveys and who may need assistance with sampling techniques should contact IFPRI’s M&E team.

As part of the IFPRI’s evaluation efforts, and with input from AR researchers, the M&E team has collected large-scale household- and community-level data on agronomic (e.g., yield) and economic

(e.g., nutrition, health, poverty) outcomes through the Africa RISING Baseline Evaluation Surveys (ARBES). A follow-up data will be collected from ARBES households - through Africa RISING Follow-up Evaluation Surveys (ARFES) - to analyze program effects using more robust panel data techniques (than cross-sectional techniques). Follow-up data will be collected at the same time of the year as that of ARBES to improve temporal comparability of data and minimize survey-design related biases. AR researchers planning to conduct socioeconomic surveys may find the ARBES tools here useful. Please also reach out to the M&E team for assistance during survey tool development.

Finally, AR researchers and the M&E team shall seek feedback from program gender specialists to ensure the collection of data that allows gender-disaggregated analysis.

Appendix A. Draft Data User Agreement

RESEARCH DATA USE AGREEMENT BETWEEN
[Insert Agency Name of Data Provider, Approving Official/Title, Contact Information (address, phone, email]
and
[Insert Name/Title Principal Researcher, Agency Name, Contact Information (address, phone, email, Country]

This Data Use Agreement is mutually made and voluntarily entered on [**Insert Date**] by and between [**Insert Provider Name**], hereafter "Provider" and [**Insert Researcher Name**], hereafter "Researcher." Researcher will be responsible for the observance of all conditions for use and for establishment and maintenance of security agreements as specified in this agreement to prevent unauthorized use. As part of this agreement the Researcher has included an attachment containing justification for making the data request including study duration and personnel, a detailed plan as to where and how the data will be stored, who will have access, how data will be maintained, transported as well as how the data will be disposed of at the end of the study's activities. Except for summary results any other request for the dissemination of the data is not covered by this agreement. That determination is a separate request. Summary results are those items which cannot be used to identify any individual participating in the study. It should be noted that the stripping of an individual's name or individual identification number does not preclude the identification of that individual and therefore is not sufficient to protect the confidentiality of individual data.

1. This agreement sets forth the terms and conditions pursuant to which Provider will disclose certain data in the form of a Limited Data Set to the Researcher.

2. Permitted Uses and Disclosures
    2.1 Except as otherwise specified herein, the Researcher may make all uses and disclosures of the Limited Data Set necessary to conduct the research described herein: [include a brief description of the research and/or agency protocol number] ("Research Project")
    2.2 In addition to the Researcher, the individuals, and or classes of persons, who are permitted to use or receive the Limited Data Set for purposes of the Research Project include: [**insert names or classes of persons who may use or receive the limited data set, e.g. the researcher's staff, any collaborators, other clinical sites involved in the research, sponsors if applicable, outside laboratories**]. Access to the data covered by this agreement shall be limited to the minimum number of research individuals and to those individuals on a need-to-know basis to achieve the purpose stated in the protocol/study design. To the extent that the classes of persons are not part of the Researcher's workforce who are directly involved in the Research Project, the Researcher shall notify and consult with the **[ORGANIZATION]** IRB Chair before adding such individuals or classes of persons. The approval from the Chair must be given in writing. The Researcher will then enter into a data agreement with the other classes of persons before such release of the Limited Data Sets. All such notations will be sent via email to the **[ORGANIZATION]** IRB Chair within 7 days of the approval to include such individuals or classes of persons.
3. Researcher Responsibilities
    3.1 Researcher will not use or disclose the Limited Data Set for any purpose other than permitted by this Agreement other than to the Research Project only or as required by law;
    3.2 Researcher will use appropriate administrative, physical and technical safeguards to prevent use or disclosure of the Limited Data Set other than as provided for by this Agreement;
    3.3 Researcher will report to the Holder any use or disclosure of the Limited Data Set not provided for by this Agreement of which the Researcher becomes aware within seven (7) days of becoming aware of such use or disclosure;
    3.4 Researcher will ensure that any agent, (i.e. including donor, subcontractor), to whom it provides

the Limited Data Set, agrees to the same restrictions and conditions that apply through this Agreement to the Recipient with respect to the Limited Data Set;
3.5 Researcher will not identify the information contained in the Limited Data Set. There are no intended third party beneficiaries to this Agreement.
3.6 Researcher will not contact the individuals who are the subject of the Research Project contained in the Limited Data Set.

4. Term and Termination
4.1 The terms of this Agreement shall be effective as of **[insert effective date],** and shall remain in effect until all data in the Limited Data Set provided to the Researcher is destroyed. An affidavit or statement certifying that the Limited Data set was destroyed outlining the means and method of the destruction should be provided to the Provider within seven (7) days of data destruction. The **[ORGANIZATION]** IRB Chair should be the contact to send the information. Such proof may be offered by email address to the **[ORGANIZATION]** IRB Chair and to the IRB to keep for their administrative purposes.
4.2 Upon the Holder's knowledge of a material breach of this Agreement by the Researcher, the Provider shall provide an opportunity for Researcher to cure the breach or end the violation. If efforts to cure the breach or end the violation are not successful within the reasonable time period ten (10) days specified by the Provider, the Provider shall immediately discontinue disclosure of the Limited Data Set to the Researcher and notify the IRB and agency officials of the breach. If the Provider agency officials determine that cure of the breach is not possible then the agreement is immediately terminated and no other data will be provided to the Researcher. A report will be sent to the IRB who will in turn contact the appropriate regulatory agency.
4.3 Upon Provider's knowledge of a material breach by Researcher, Provider shall have the right to immediately terminate this Agreement
5. General Provisions
5.1 This Agreement shall not be assigned by Researcher without the prior written consent of the Provider. The respective rights and obligations of Researcher under this Agreement shall survive termination of this Agreement. No provision of this Agreement may be waived except by an agreement in writing signed by the waiving party. A waiver of any term or provision shall not be construed as a waiver of any other term or provision.
5.2 Each party agrees that it will be responsible for its own acts and the results thereof to the extent authorized by law and shall not be responsible for the acts of the other party or the results thereof.

The persons signing below have the right and authority to execute this Agreement and no further approvals are necessary to create a binding agreement. In the event of any conflict between the terms and conditions stated within this Agreement and those contained within any other agreement or understanding between the parties, written, oral or implied, the terms of this Agreement shall govern.

IN WITNESS WHEREOF, the parties hereto execute this agreement as follows:

Date: ______________________	[INSERT NAME OF DATA PROVIDER] By: ____ (Title person with authority to sign agreement for the holder of the data)
Date: ______________________	RESEARCHER By: _______________________________________ (Title of researcher or person with authority to sign agreement for the recipient)

If your research requires the use of a data use agreement, a copy of the signed agreement (by both parties) should be submitted to the IRB office with other research materials for review. A copy of the agreement should also be retained by both parties involved in the research as an assurance of this agreement.